SPRINKLER DESIGN CRITERIA

- 1. ALL AREAS OF THE NEW WORK SHALL BE SPRINKLERED.
- 2. ALL FIRE PROTECTION WORK SHALL MEET THE REQUIREMENTS OF THE CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR)
- 3. THE SPRINKLER SYSTEM FOR THIS NEW WORK SHALL BE HYDRAULICALLY CALCULATED SYSTEMS: AUTOMATIC SPRINKLERS THROUGHOUT ENTIRE AREA SHALL BE INSTALLED AS PER NFPA 13, LIGHT HAZARD, HYDRAULICALLY CALCULATED SYSTEMS TO PROVIDE A DENSITY OF 0.10 GPM PER SQUARE FOOT FOR ANY, INCLUDING THE HYDRAULICALLY MOST REMOTE 1,500 SQUARE FOOT AREA. THE HEAD COVERAGE SHALL NOT BE GREATER THAN 200 SQUARE FEET PER HEAD.
- 4. STANDARD SYSTEMS SHALL BE PROVIDED ON THE BASIS OF 130 SQUARE FEET PER HEAD FOR ALL AREAS OF NEW WORK, EXCEPT FOR THOSE AREAS NOTED TO HAVE OTHER COVERAGES.
- 5. COORDINATE ALL FIRE PROTECTION WORK WITH ARCHITECTURAL REFLECTED CEILING PLANS, HVAC DUCTWORK, DIFFUSER LOCATIONS, AND ELECTRICAL LIGHTING LOCATIONS.
- 6. ALL FIRE DEPARTMENT VALVES, FIRE DEPARTMENT INLET CONNECTIONS, ETC. SHALL BE PROVIDED WITH LOCAL CITY FIRE DEPARTMENT APPROVED THREADS.
- 7. ALL SPRINKLER PIPING SHALL BE MAINTAINED A MINIMUM OF 16" ABOVE FINISHED CEILINGS, WHERE POSSIBLE.
- 8. SPRINKLER HEADS SHALL HAVE A 1/2" NOMINAL ORIFICE AND A TEMPERATURE RATING OF 165°F. SPRINKLER HEADS LOCATED NEAR HEAT PRODUCING EQUIPMENT OR IN AREAS SUBJECT TO HIGH TEMPERATURES, THE SPRINKLER HEADS SHALL HAVE A TEMPERATURE RATING OF 212°F.
- 9. SPRINKLER HEADS LOCATED IN NO CEILING AREAS SHALL BE ROUGH BRASS, STANDARD UPRIGHT OR PENDENT HEADS, AS REQUIRED BY THE CONSTRUCTION. SPRINKLER HEADS LOCATED IN ACOUSTICAL TILE CEILING AREAS OR IN DRYWALL OR PLASTER CEILING AREAS SHALL BE:
- a. PUBLIC AREAS CONCEALED PENDENT TYPE WITH WHITE FINISH COVER PLATE AND MATCHING ESCUTCHEON.
- b. ALL OTHER AREAS SEMI RECESSED PENDENT TYPE WITH CHROME FINISH AND MATCHING ESCUTCHEON.
- c. SPRINKLER HEADS LOCATED IN LIGHT HAZARD SYSTEM AREAS SHALL BE QUICK RESPONSE TYPE HEADS AS REQUIRED BY NFPA 13.
- 10. THE CONTRACTOR SHALL TEST THE ENTIRE SYSTEM IN ACCORDANCE WITH NFPA REGULATIONS, AWWA REGULATIONS AND STATE AND LOCAL CODE REGULATIONS. CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR A FINAL INSPECTION AND APPROVAL BY THE CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE (COTR). APPOINTMENTS MUST BE MADE IN ADVANCE FOR THESE INSPECTIONS. TEST REPORTS SHALL BE FURNISHED TO THE OWNER.
- 11. THE CONTRACTOR SHALL OBTAIN CURRENT WATER FLOW AND PSI DATA FROM THE VA TO PRODUCE HYDRAULIC CALCULATIONS.
- 12. THE CONTRACTOR SHALL COMPLETE ALL NECESSARY CALCULATIONS REQUIRED TO MEET SPRINKLER COVERAGE ON ALL FLOORS.

FIRE PROTECTION GENERAL NOTES:

- 1. ALL NEW SPRINKLER HEAD LOCATIONS TO BE PLACED PER THE ARCHITECTURAL REFLECTED CEILING DRAWING.
- 2. SPRINKLER HEADS SHALL BE LOCATED IN THE CENTER OF THE CEILING TILE.
- 3. COORDINATE ALL WORK WITH OTHER TRADES PRIOR TO THE FABRICATION OR INSTALLATION OF ANY PIPING.
- 4. THE DRAWINGS ARE DIAGRAMMATIC. THE CONTRACTOR MUST FIELD VERIFY ACTUAL CONDITIONS AT THE SITE PRIOR TO PROCEEDING WITH THE WORK.
- 5. ALL NEW PIPING SHALL BE INSTALLED IN SUCH A WAY THAT IT DOES NOT HAMPER ACCESS TO VALVES, ACCESS DOORS OR EQUIPMENT.
- 6. ENTIRE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 13 LATEST EDITION.

SPRINKLER DESIGN CRITERIA

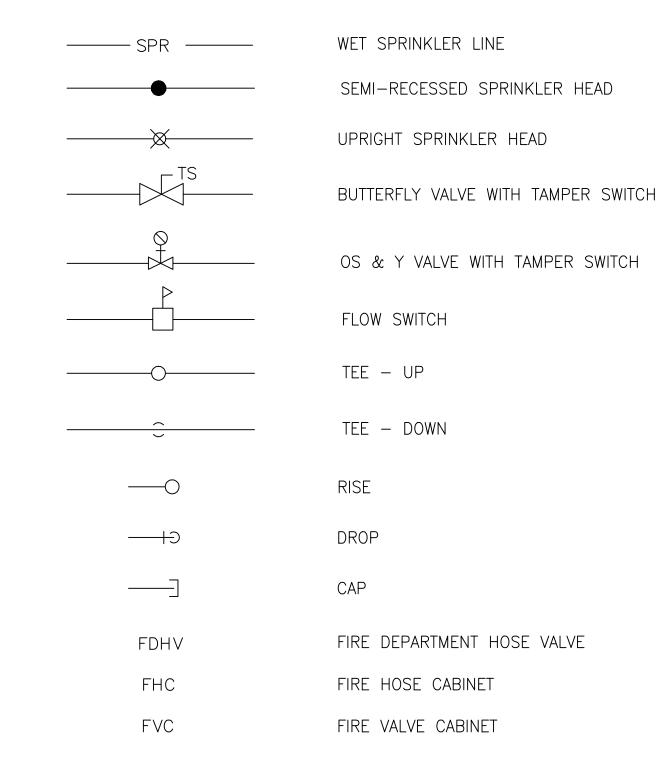
- 1. SPRINKLER CONTRACTOR SHALL PROVIDE COMPLETE SPRINKLER COVERAGE TO ALL AREAS AS INDICATED UNDER THIS CONTRACT. CONTRACTOR SHALL LOCATE SPRINKLER HEADS AND SIZE PIPING IN ACCORDANCE WITH THE LATEST EDITION OF NFPA-13, AND AUTHORITY HAVING JURISDICTION.
- 2. CONTRACTOR SHALL HYDRAULICALLY DESIGN AND INSTALL THE SPRINKLER SYSTEM IN ACCORDANCE WITH THE LATEST EDITION OF NFPA-13. SPRINKLERS SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA-13, AND THE AUTHORITY HAVING JURISDICTION.
- 3. CONTRACT DRAWINGS FOR MECHANICAL WORK ARE DIAGRAMMATIC, INTENDED TO CONVEY SCOPE AND GENERAL ARRANGEMENT. CONTRACTOR SHOULD VISIT SITE TO DETERMINE EXACT QUANTITIES AND SCOPE OF WORK.
- 4. PRIOR TO THE INSTALLATION OF THE SPRINKLER SYSTEM. THE SPRINKLER CONTRACTOR SHALL COORDINATE PIPING, VALVES, SPRINKLER HEADS, ETC. WITH ALL NEW DUCTWORK, PIPING, CABLE TRAYS, STRUCTURAL MEMBERS AND OTHER DISCIPLINES.
- 5. ALL PENETRATIONS IN NEW FIRE RATED WALLS, CEILINGS AND FLOORS SHALL BE SEALED TO THE FULL THICKNESS OF THE PENETRATION WITH A MATERIAL OF EQUAL FIRE RESISTANCE.
- 6. ALL CEILINGS, WALLS, FLOORS AND FINISHES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED AND PAINTED.
- 7. ACTUAL LOCATION OF NEW CEILING MOUNTED LIGHTS, RETURN AND SUPPLY DUCTS, AIR GRILLES AND DIFFUSERS, SPRINKLER HEADS, PIPING AND STRUCTURAL SUPPORTS SHALL BE VERIFIED IN THE FIELD BY THE CONTRACTOR.
- 8. ALL SPRINKLER PIPING INSTALLED IN FINISHED AREAS SHALL BE CONCEALED.
- 9. SHOULD THE CONTRACTOR DISCOVER ANY DISCREPANCIES OR OMISSIONS ON THE DRAWINGS OR IN THE SPECIFICATIONS, HE SHALL NOTIFY THE ENGINEER OF SUCH CONDITIONS PRIOR TO THE BID DATE OTHERWISE, IT WILL BE UNDERSTOOD THAT THE DRAWINGS AND SPECIFICATIONS ARE CLEAR AS TO WHAT IS INTENDED AND SHALL BE AS INTERPRETED BY THE ENGINEER.
- 10. ALL SPRINKLER HEADS INSTALLED BELOW 8'-0" ABOVE FINISHED FLOOR SHALL BE PROVIDED WITH A SPRINKLER HEAD GUARD.
- 12. CONTRACTOR SHALL MAKE MODIFICATIONS TO NEW SPRINKLER SYSTEM AS REQUIRED TO PROVIDE COVERAGE FOR THE NEW ARCHITECTURAL ARRANGEMENT (INCLUDING ALL OBSTRUCTIONS, SUCH AS SURFACE MOUNTED LIGHTING FIXTURES, ETC.) IN ACCORDANCE WITH THE LATEST EDITION OF NFPA 13 AND LOCAL AUTHORITY HAVING JURISDICTION. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR APPROVAL PRIOR TO COMMENCING WORK.

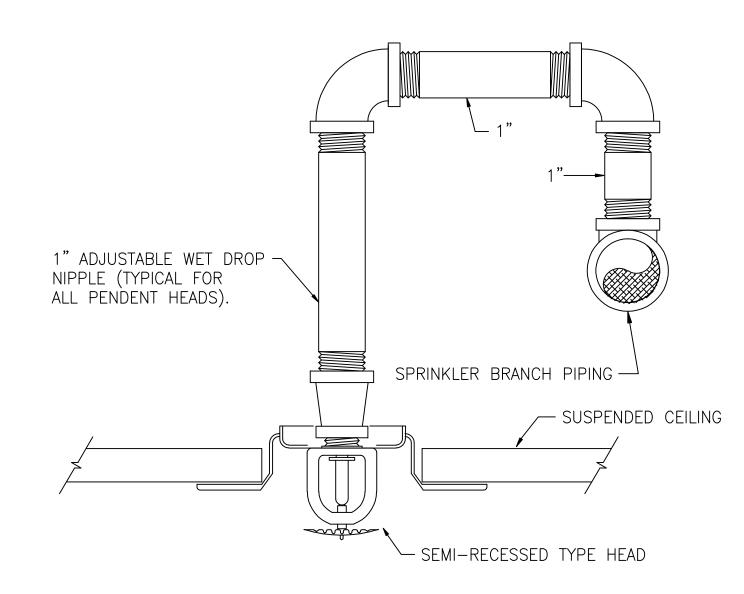
CUTTING & PATCHING NOTE:

THIS CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REQUIRED CUTTING OR CORE DRILLING FOR HIS PIPING SYSTEM(S) WHERE THEY PENETRATE BUILDING WALLS, FLOORS OR CEILINGS. THESE HOLES SHALL BE A MAXIMUM OF TWO (2) PIPE DIAMETERS LARGER THAN THE PIPE PASSING THROUGH THE HOLES. IT SHALL ALSO BE THIS CONTRACTORS RESPONSIBILITY TO FURNISH AND INSTALL THE REQUIRED PIPE SLEEVES AND FIRE CAULKING AND PIPE ESCUTCHEONS REQUIRED TO PROVIDE A FINISHED PRODUCT. ALL LOCATIONS SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR PRIOR TO CUTTING.

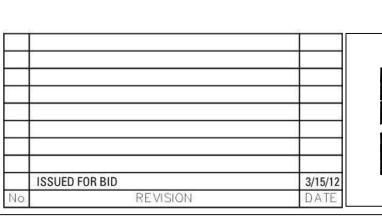
SCHEDULE (BASIS OF DESIGN) SPRINKLER NOMINAL TEMP. K-FACTOR RATING TAG MANUFACTURER MODEL STYLE FINISH ACCESSORIES MICROFAST RECESSED 5.6 155° WHITE MODEL E−1 ESCUTCHEON PENDENT MODEL MQR MICROFAST | CHROME | WITH GUARD VIKING UPRIGHT 5.6 175° MODEL MQR

FIRE PROTECTION SYMBOLS & ABBREVIATIONS





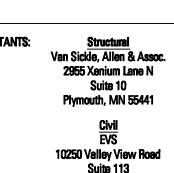
TYPICAL SPRINKLER HEAD/ RETURN BEND INSTALLATION DETAIL

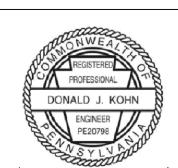








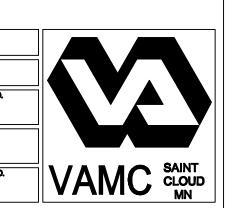


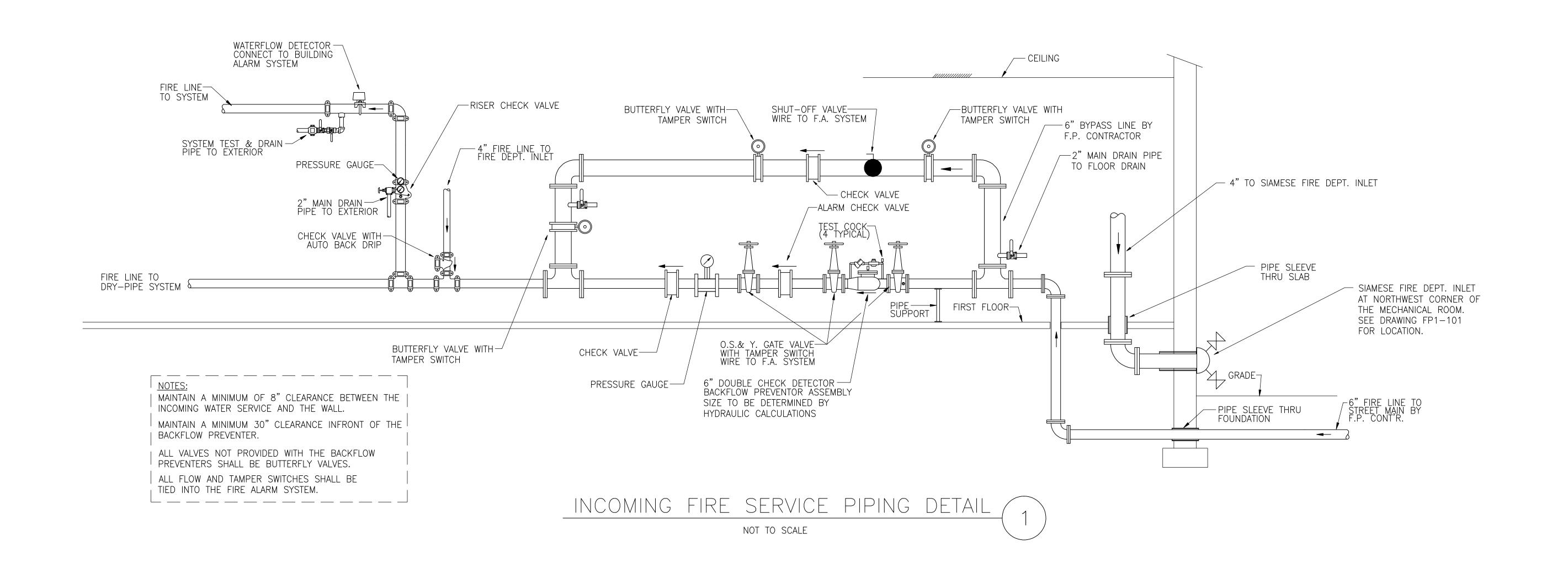


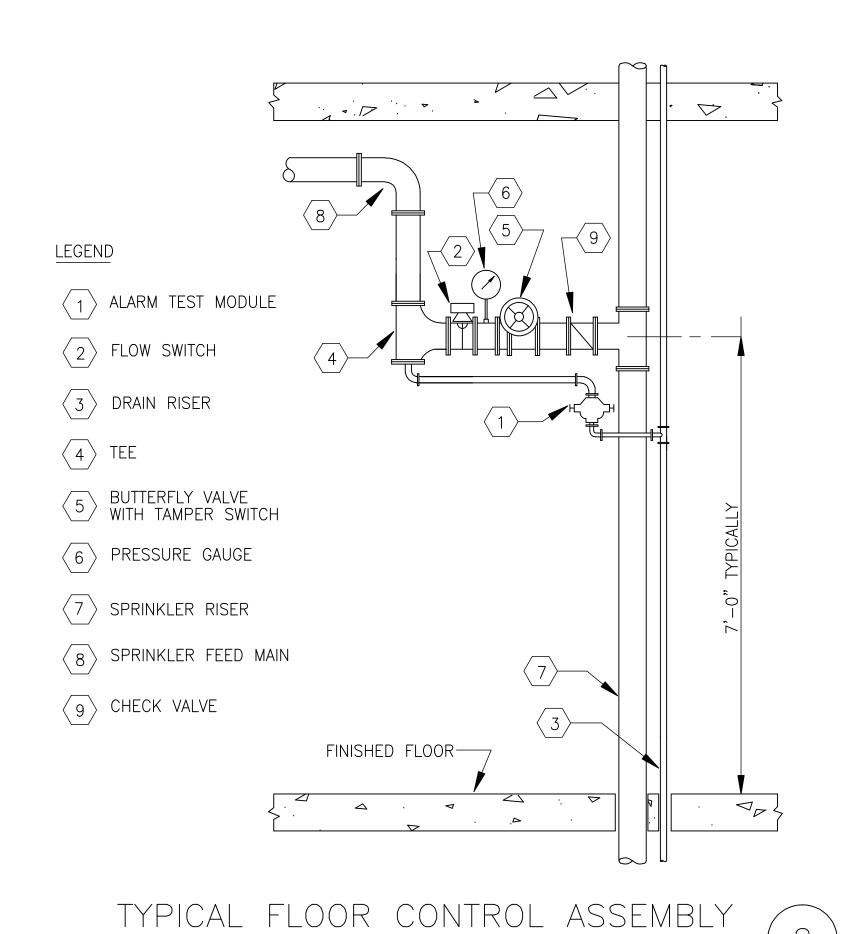
A Second	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed Architect under the laws of the State of Minnesota.
	Signature:
	Registration No.:
p	Date: 3/15/12

DATE:
DATE:

RAWING TITLE RE PROTECTION EGENDS AND NOTES	PROJECT TITLE LONG TERM/II PSYCHIATRIC	DATE 03-15-20 PLOT 8C: 1/8"=1'-			
					PROJECT
				2000.01	
PPROVED: CHIEF OF STAFF	DATE:	BUILDING No	CHECKED BY	DRAWN	CAD FILE
		1234	CHK	DRW	
PPROVED: MEDICAL CENTER DIRECTOR	DATE:	LOCATION 4801 VETERANS DRIVE, ST. CLOUD MIN			DRAWING FP0-00







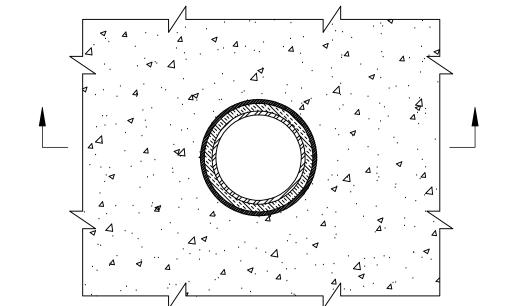
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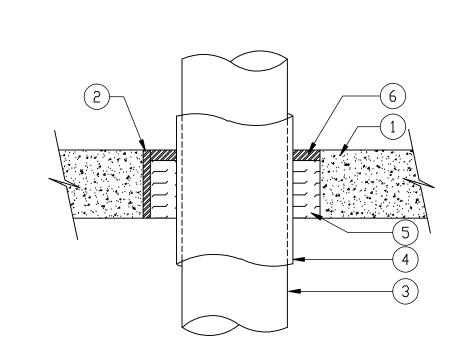
- CONCRETE FLOOR OR WALL ASSEMBLY (2-HR FIRE-RATING):
 A. LIGHTWEIGHT OR NORMAL WEIGHT CONCRETE FLOOR OR
 WALL (MINIMUM 4-1/2" THICK).
 B. ANY UL/ULC CLASSIFIED CONCRETE BLOCK WALL.
- 2. OPTIONAL: MAXIMUM 20" NOMINAL DIAMETER STEEL PIPE SLEEVE (SCHEDULE 10 OR HEAVIER).
- 3. PENETRATION ITEM TO BE ONE OF THE FOLLOWING:

 A. MAXIMUM 12" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).

 B. MAXIMUM 6" NOMINAL DIAMETER COPPER PIPE.
- 4. MAXIMUM 2" THICK GLASS FIBER INSULATION.
- 5. MINIMUM 4" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED.
- 6. MINIMUM 1/2" DEPTH HLITI FS-ONE INTUMESCENT FIRESTOP SEALANT.

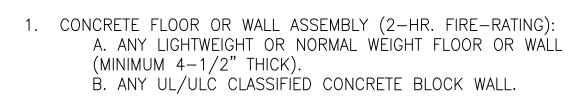
NOTES: 1. MAXIMUM DIAMETER OF OPENING = 20".
2. ANNULAR SPACE = MINIMUM 1/2", MAXIMUM 2-1/4".
3. MINIMUM 1/2" DEPTH HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT IS REQUIRED ON BOTH SIDES OF A WALL.





UL/cUL SYSTEM NO. CAJ5091





- 2. PENETRATING ITEM TO BE ONE OF THE FOLLOWING:

 A. MAXIMUM 10" NOMINAL DIAMETER STEEL PIPE (SCHEDULE 10 OR HEAVIER).
 - B. MAXIMUM 4" NOMINAL DIAMETER COPPER PIPE.
 C. MAXIMUM 4" NOMINAL DIAMETER STEEL CONDUIT.
 D. MAXIMUM 4" NOMINAL DIAMETER EMT.
- 3. MINIMUM 3" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED FOR NOMINAL 4" DIAMETER (AND SMALLER), AND MINIMUM 4" THICKNESS MINERAL WOOL (MIN. 4 PCF DENSITY) TIGHTLY PACKED FOR PIPES GREATER THAN NOMINAL 4" DIAMETER.
- 4. MINIMUM 1/2" DEPTH HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT, CP 606 FLEXIBLE FIRESTOP SEALANT OR CP 601S ELASTOMERIC FIRESTOP SEALANT.
- 5. MINIMUM 1/2" CROWN HILTI FS-ONE INTUMESCENT SEALANT, CP 606 FLEXIBLE FIRESTOP SEALANT OR CP 601S ELASTOMERIC FIRESTOP SEALANT APPLIED AT POINT OF CONTACT.

NOTES:

- 1. MAXIMUM DIAMETER OF OPENING = 12"
- 2. ANNULAR SPACE = MINIMUM 3/8", MAXIMUM 1-1/4".

 MINIMUM 1/2" DEPTH HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT,

 CP 606 FLEXIBLE FIRESTOP SEALANT OR CP 601S ELASTOMERIC

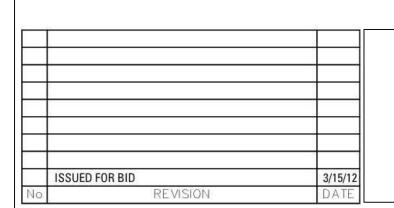
 FIRESTOP SEALANT IS REQUIRED ON BOTH SIDES OF A WALL

 ASSEMBLY.
- 3. L-RATING ONLY APPLY WHEN HILTI FS-ONE INTUMESCENT FIRESTOP SEALANT IS USED.

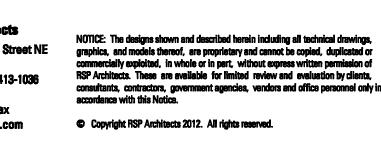
F RATING = 2-HR. T RATING = 0-HR. L RATING AT AMBIENT = LESS THAN 1 CFM/SQ. FT. L RATING AT $400^{\circ}F = 4$ CFM/SQ. FT

UL/cUL SYSTEM NO. CAJ1149

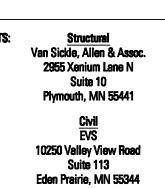
METAL PIPE THROUGH CONCRETE
FLOOR/WALL OR BLOCK WALL
NOT TO SCALE



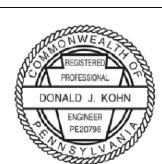




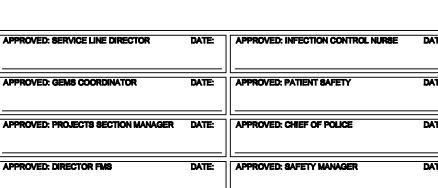








I hereby certify that this plan, specification or report by me or under my direct supervision and that I am Architect under the laws of the State of Minnesota	a duly licensed
	I •
Signature:	



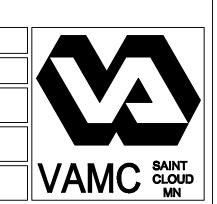
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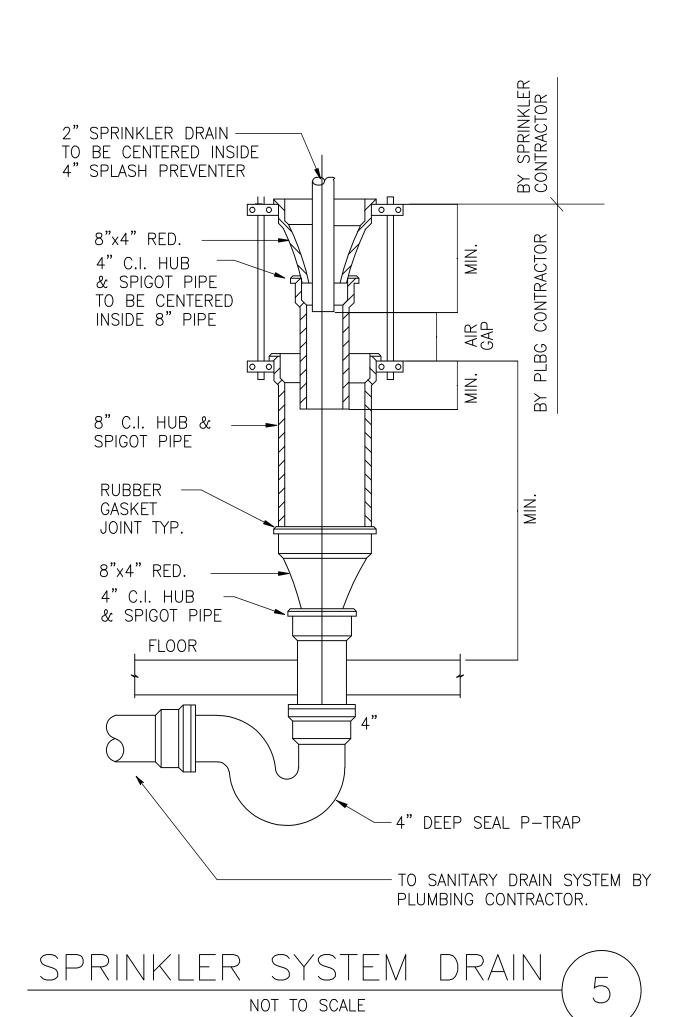
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LONG TERM/INTERMEDIATE
PSYCHIATRIC UNIT

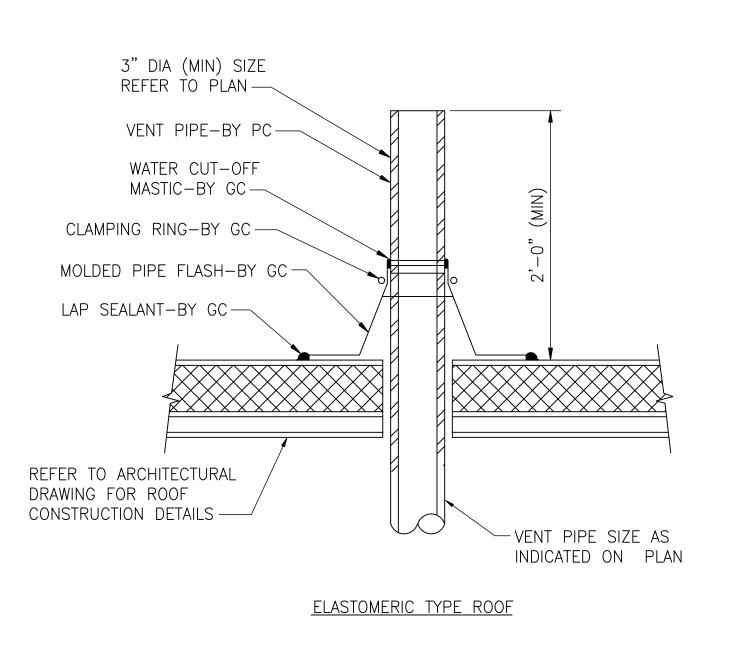
APPROVED: CHIEF OF STAFF

DATE:
BUILDING No
1234

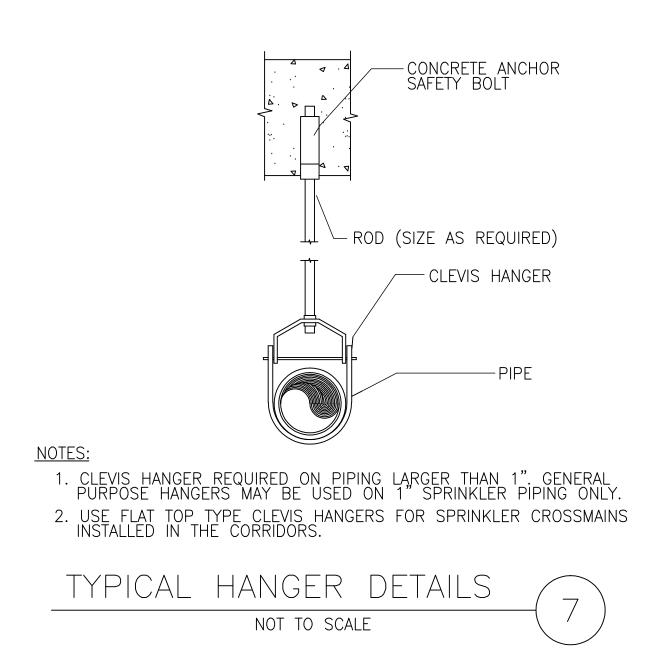
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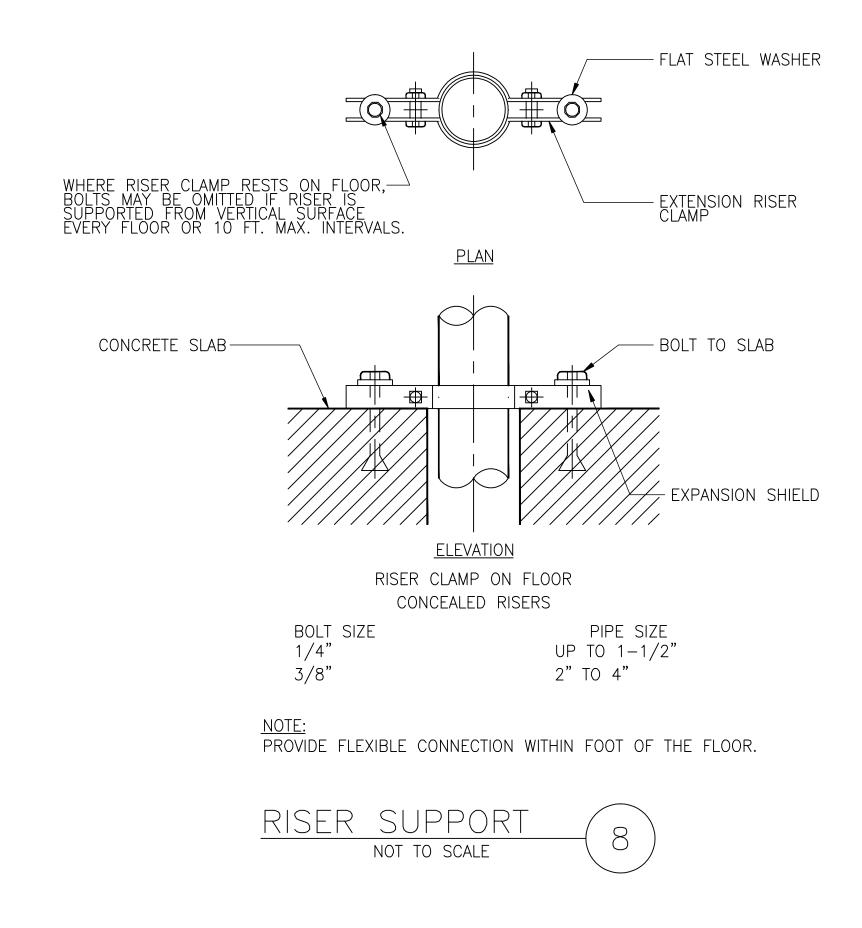


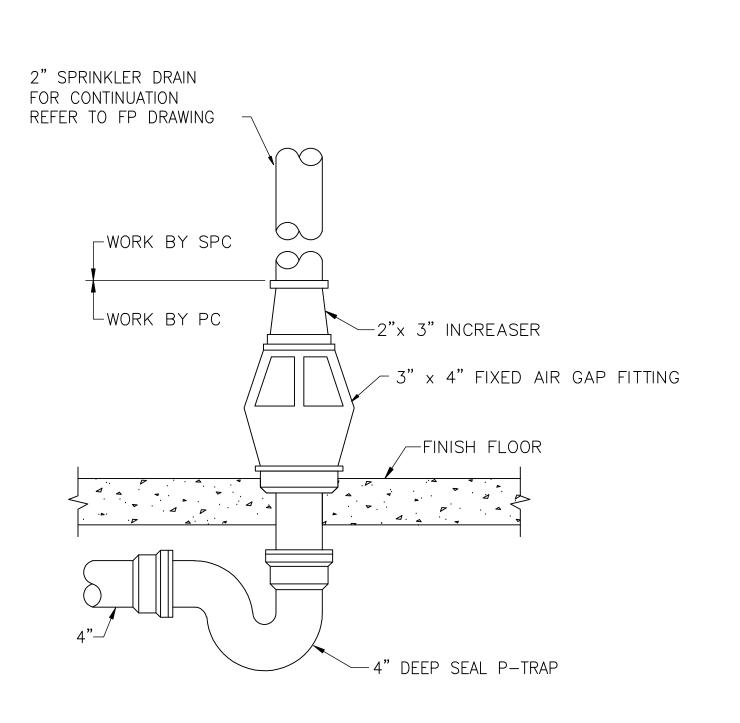




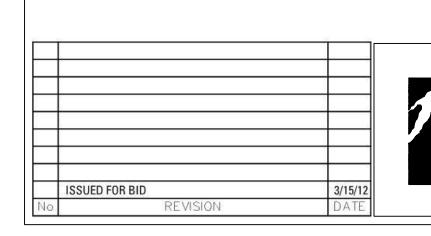








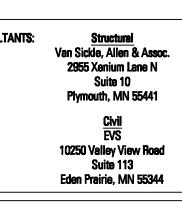




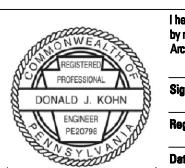








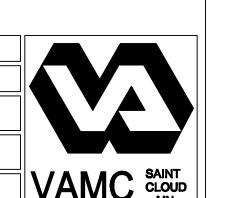


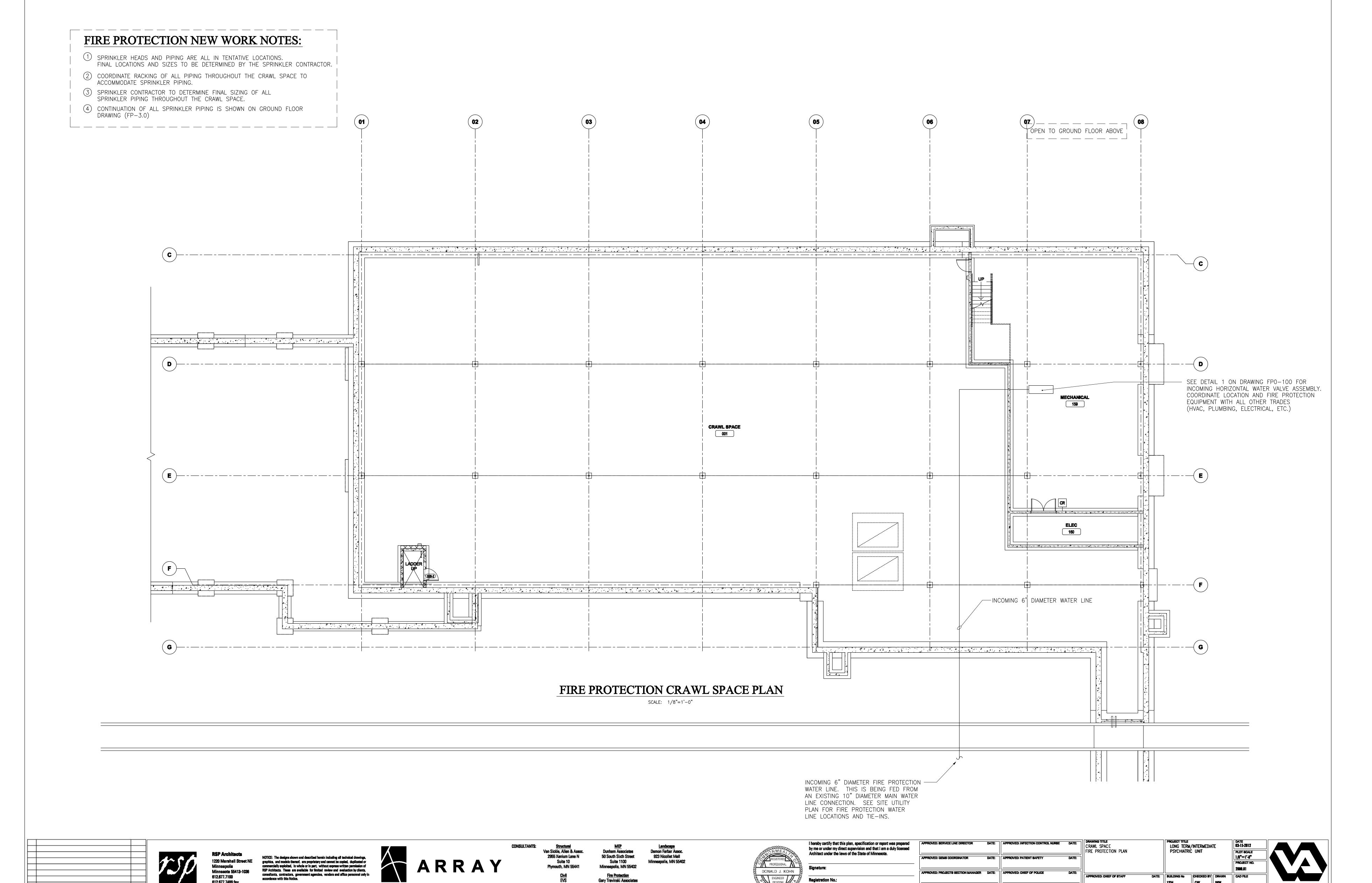


I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed Architect under the laws of the State of Minnesota.	APPR
Signature:	APPR
Registration No.:	
Date: 3/15/12	APPR

APPROVED: SERVICE LINE DIRECTOR	DATE:	APPROVED: INFECTION CONTROL NURSE	DAT
 APPROVED: GEMS COORDINATOR	DATE:	APPROVED: PATIENT SAFETY	DAT
 APPROVED: PROJECTS SECTION MANAGER	DATE:	APPROVED: CHIEF OF POLICE	DAT
APPROVED: DIRECTOR FMS	DATE:	APPROVED: SAFETY MANAGER	DAT

AWING TITLE RE PROTECTION DETAILS	LONG TERM	DATE 03-15-2012 PLOT SCALE 1/8"=1'-0"			
	PSYCHIATRIC				
					PROJECT NO.
					2000.01
PROVED: CHIEF OF STAFF	DATE:	BUILDING No	CHECKED BY	DRAWN	CAD FILE
		1234	CHK	DRW	
PROVED: MEDICAL CENTER DIRECTOR	DATE:	LOCATION	DRAWING NO.		





Fire Protection
Gary Travinski Associates

Larksville, PA 18651-3298

10250 Valley View Road

Eden Prairie, MN 55344

healthcare facilities solutions

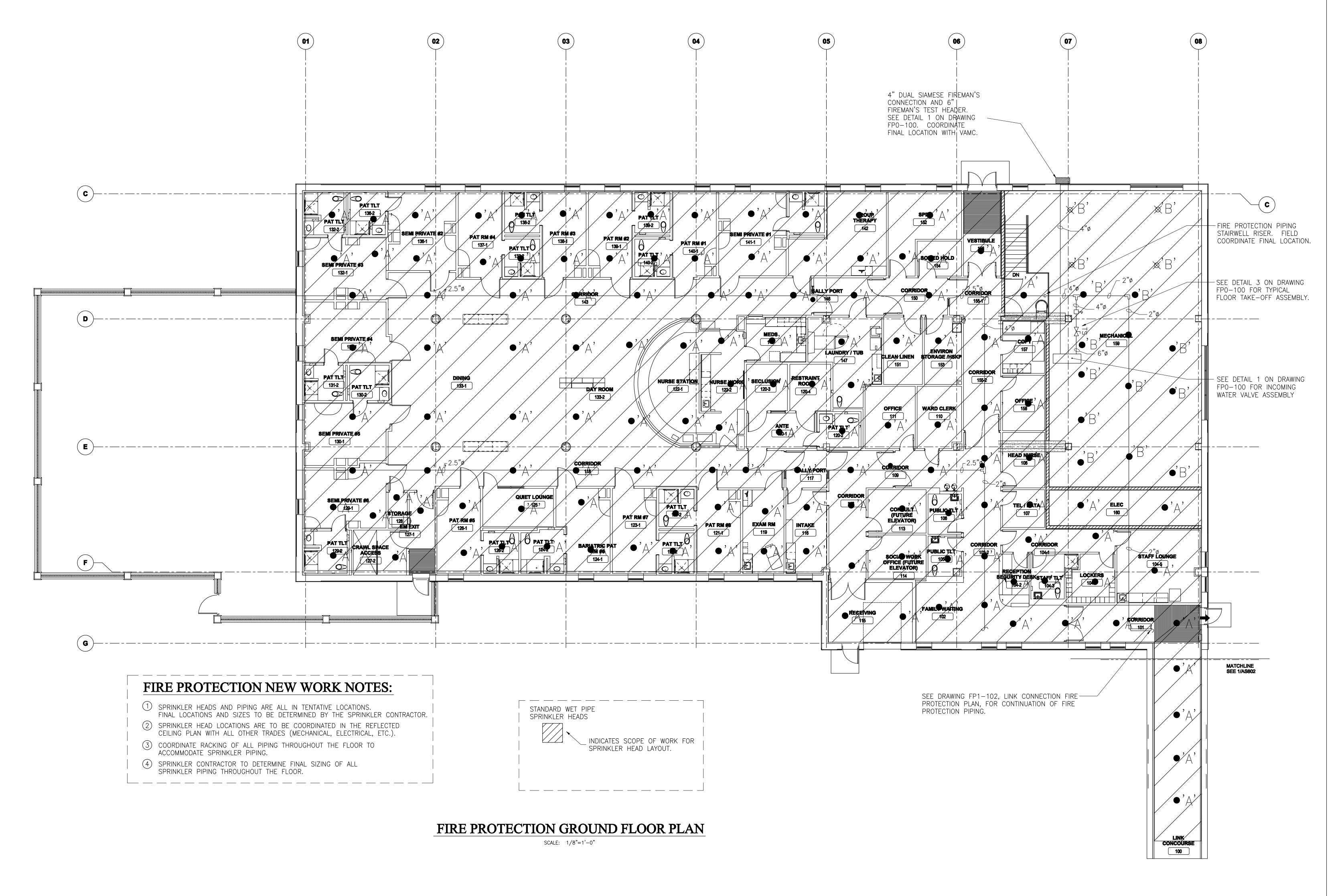
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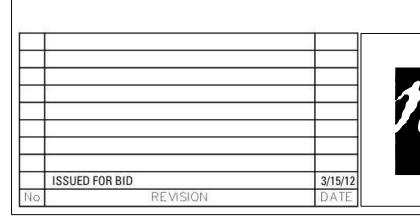
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4801 VETERANS DRIVE, ST. CLOUD MN

ISSUED FOR BID

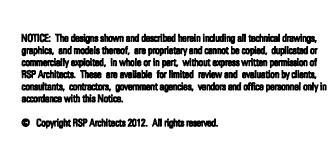
Minneapolis Minnesota 55413-1036

612.677.7100 612.677.7499 fax

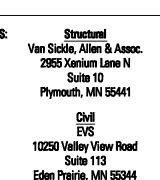


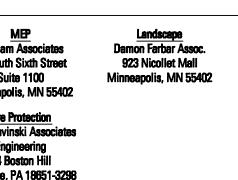














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ROVED: DIRECTOR FMS	DATE:	APPROVED: SAFETY MANAGER	DATE:	APPROVED: MEDI

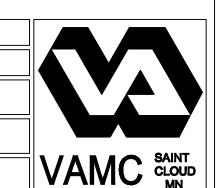
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PSYCHIATRIC UNIT

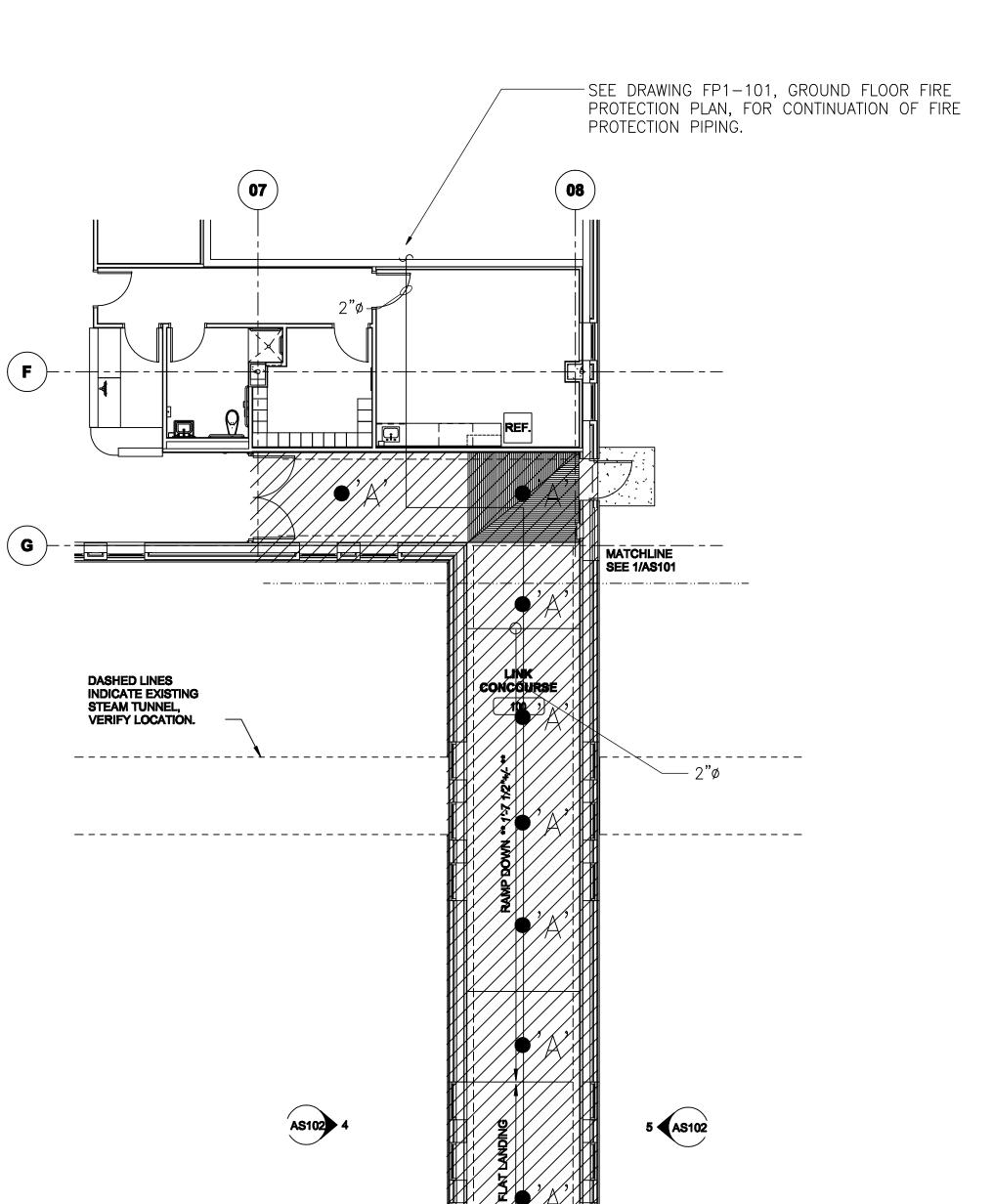
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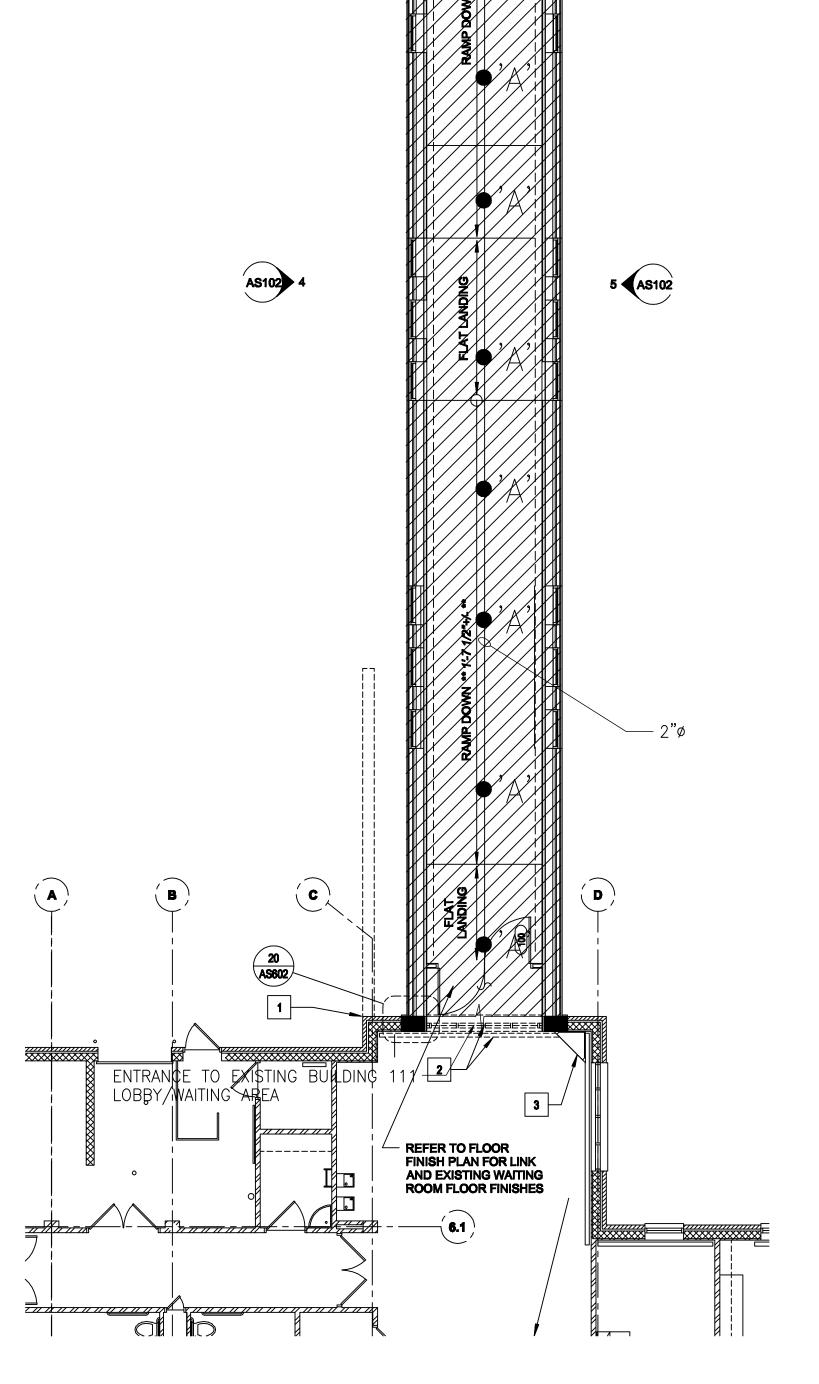
STANDARD WET PIPE
SPRINKLER HEADS

INDICATES SCOPE OF WORK FOR SPRINKLER HEAD LAYOUT.

FIRE PROTECTION NEW WORK NOTES:

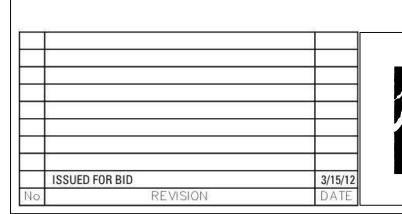
1 SPRINKLER HEADS AND PIPING ARE ALL IN TENTATIVE LOCATIONS.
FINAL LOCATIONS AND SIZES TO BE DETERMINED BY THE SPRINKLER CONTRACTOR.

- (2) COORDINATE RACKING OF ALL PIPING THROUGHOUT THE FLOOR TO ACCOMMODATE SPRINKLER PIPING.
- 3 SPRINKLER CONTRACTOR TO DETERMINE FINAL SIZING OF ALL SPRINKLER PIPING THROUGHOUT THE FLOOR.

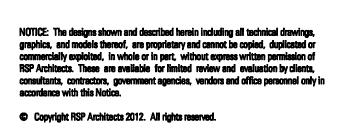


FIRE PROTECTION LINK CONNECTION FLOOR PLAN

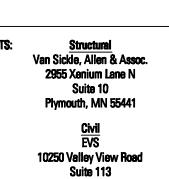
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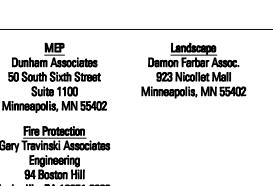


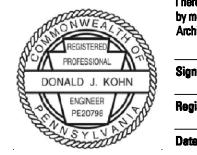












A S	I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly licensed Architect under the laws of the State of Minnesota.		
	Signature:		
FOR S	Registration No.:		
do do		AP	

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	APPROVED: GEMS COORDINATOR	DATE:	APPROVED: PATIENT SAFETY	DAT
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	APPROVED: PROJECTS SECTION MANAGER	DATE:	APPROVED: CHIEF OF POLICE	DAT
_	APPROVED: DIRECTOR FMS	DATE:	APPROVED: SAFETY MANAGER	DAT

ving title Connection Protection Plan		PROJECT TITLE LONG TERM/I PSYCHIATRIC		E	
ROVED: CHIEF OF STAFF	DATE:	BUILDING No	CHECKED BY	DRAWN DRW	=
ROVED: MEDICAL CENTER DIRECTOR	DATE:	LOCATION	FIIR	DAII	=

